

REMARKS

Reconsideration of this application in light of the amendments and remarks is respectfully requested.

I. Rejection Under 35 U.S.C. § 112 First Paragraph

The negative limitation in claim 16 is clearly supported at least by paragraph [0009], which contains nearly the exact wording of the negative limitation of claim 16. It is clear that the phrase “excluding alkali metal salt of an alkylsulphonic or alkylsulphuric acid,” modifies the noun “rubber compound.” This is particularly evident when read in conjunction with paragraph [0005], which refers to the presence of “alkali metal salt of an alkylsulphonic or alkylsulphuric acid” in prior art compounds.

II. Rejections of Claims 1-7 and 11-12 Under 35 U.S.C. § 102

While Applicants strongly disagree with the Office Action’s statements regarding ethylene-propylene rubber and thermoplastic rubber being read so broadly as to include EPDM, claim 1 is amended to expedite prosecution. However, it is clearly erroneous to consider NBR, nitrile rubber, to be encompassed within the definition of “polybutadiene rubber.” These types of rubber are significantly different, and no person of skill in the art would consider NBR rubber to be “polybutadiene.” Polybutadiene is not a copolymer with NBR.

Accordingly, the Bruck reference does not teach the use of any of the rubbers recited in the Markush group of claim 1. For this reason, Bruck does not anticipate claims 1-7 and 11-12.

Furthermore, the Examiner is taking an unreasonably broad interpretation of the term “antidegradant.” One of ordinary skill in the art would understand what types of ingredients are commonly considered antidegradants in the field. The specification gives a functional explanation in paragraph [0003], stating that antidegradants are for “preventing atmospheric attack of the rubber compound” and wax is given as an example of an antiozonant. It is not reasonable to consider a matrix NBR or EPDM rubber to be an antidegradant. The rubber component is called out in a separate element of the claim, and no one of skill in the art would consider NBR or EPDM as an antidegradant. Carbon black is not an antidegradant, it is very commonly known as and referred to in the specification as a filler. Zinc salt of methylmercaptobenzothiazole is also not an antidegradant, it is a vulcanization accelerator (see e.g. U.S. 7,766,062 at column 8, line 63). No combination of these ingredients would collectively be called an “antidegradant.”

Accordingly, the Bruck reference does not teach at least two elements of claim 1: the rubbers recited in the Markush group and the antidegradant. For this reason Bruck does not anticipate claim 1 or its dependent claims.

Furthermore, regarding independent claims 4 and 5. These have been amended to require about 0.02 to about 5 phr of a surfactant containing a thio functionality and a thioether surfactant, respectively. The Bruck reference only discloses the use of 10 phr of ether thioether.

III. Rejections of Claims 8-10 and 12-20 Under § 103

Claims 8-10 and 12-20 were rejected as obvious over Bataille (U.S. 2001/0051677) in view of Bruck. The Office Action states that Bataille is silent on the thio compound, but that the Bruck reference teaches this limitation. This rejection is traversed on the basis that the

combination of the Vulkanol 85 thioether of the Bruck reference with the composition of Bataille is not proper. The Office Action stated that the motivation for the combination was “the expectation [of] developing rubber composition with ozone resistance properties, [] would [make it] obvious to the skilled in the art to incorporate the ether-thioether teachings of Bruck et al. into the rubber composition of Bataille et al. to obtain the invention of claims 8-10, 12-20.” This motivation is insufficient for several reasons.

First, there is no disclosure in the cited art that indicates that the ether-thioether component of Bruck will provide *any* benefit, much less the specific ozone resistance benefit mentioned in the Office Action. Bruck merely mentions it in a Table, with no explanation of any benefit, and Bataille is silent. In fact, Bruck clearly teaches that its ozone resistance properties are because of the EPDM/NBR polymer matrix component. (USPTO translation, p. 3, 2nd paragraph.) If one of skill in the art were looking to improve ozone resistance of the Bataille composition (the asserted motivation to combine), they would be motivated to change the polymer matrix of Bataille to the NBR/EPDM blend used in Bruck. They would not be motivated to select the Vulkanol 85 component, because no benefit whatsoever is attributed to the use of Vulkanol 85. Therefore, no one of skill in the art would be motivated to combine this element of Bruck with the Bataille reference for any reason. The Examiner cannot use the applicant’s specification in a hindsight view of the claims and the prior art to determine that adding an ether-thioether would be beneficial to ozone resistance.

Second, Bataille already has a component for ozone resistance—the antidegradants it discloses. There is no indication that its components are not sufficient for ozone resistance. Thus, there is no reason to further boost the ozone resistance with additional expensive components.

Third, Bruck is directed to compositions for “hose covers, conveyor covers, or power transmission belts.” Such articles are not in the same field of endeavor as Bataille, which is directed to tires. Tires are significantly different from the covers and belts disclosed in Bruck. Visual appearance is not as important in covers and belts as it is in tires, and covers and belts are not subjected to the same types of integrity disrupting forces as tires are. This leads away from the obviousness of the combination of Bruck and Bataille in general.

Therefore, a *prima facie* case of obviousness has not been made against claims 8-10 and 12-20. Accordingly, these claims are believed to be in condition for allowance.

Regarding claims 14 and 19, which require an antidegradant, the Advisory Action states that Bataille clearly discloses the incorporation of waxes. However, this disclosure is only in the Background section of Bataille, and there is nothing to relate the antidegradants taught in the background with the disclosed invention of Bataille. Furthermore, the reference as a whole teaches away from the use of antidegradants, as explained in previous responses. The law requires that the reference as a whole must be considered. MPEP 2142. A portion of the reference discussing the prior art and its deficiencies cannot be considered part of the disclosure relating to the invention in the reference, particularly when the reference teaches away from this combination. Though there may be some advantage to a wax film, the teaching away must also be considered in an obviousness rejection.

Furthermore, the limitations of claim 16 were not addressed at all in the obviousness rejection. Although the Examiner rejected claim 16 under § 112, the limitations of this claim must be considered under 103 and a *prima facie* case of obviousness be made, otherwise it should not be listed as rejected under 103. “[A]ll the limitations of the claims must be

considered and given weight, including limitations which do not find support in the specification as originally filed (*i.e.*, new matter).” MPEP § 2143.03 (II). This has been asserted before and it is unclear why the Examiner is continuing to reject this claim as obvious. A *prima facie* case of unpatentability has not been made against these claims, and does not exist because Bataille contains the alkali metal salt of an alkylsulphonic or alkylsulphuric acid that is excluded by claim 16. Nothing in the prior art suggests the interchangeability of salts of alkylsulphonic or alkylsulphuric acid with the claimed thioether surfactant. Thus, claim 16 is not obvious over the prior art.

In addition, no *prima facie* case of obviousness was made against claim 17. The film in Bataille does not include a surfactant with a thio functionality. There is no evidence or even assertion that the combination of Bruck and Bataille would produce the element required by the claims.

IV. Conclusion

In summary, the § 112 rejection is untenable, the anticipation rejections are clearly missing two elements of the independent claim, and there is no motivation to combine an element that has no apparent beneficial quality from an NBR/EPDM belt and hose composition with the tire-related Bataille reference. For the foregoing reasons, the claims are believed to be in condition for allowance and allowance is respectfully requested.

Respectfully submitted,

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